

only purports to address these numbered SSOs. Thus on its face, the scope of the order fails to protect public health, water quality and the environment by failing to eliminate the remaining 84 SSOs. In fact, the requirement to eliminate the 17 SSOs is illusory because of the numerous loopholes offered by the Interim Partial Consent Decree. Over the past ten years, Hamilton County has been adding new SSOs almost as fast as it is "removing" existing ones. It seems likely that the County is simply moving the overflow from one part of the system to another. Overflows at pump stations, CSOs and treatment plants are also a violation of the Clean Water Act, yet are not included in the Interim Partial Consent Decree.

The Interim Partial Consent Decree as it is proposed is "interim" and contains remedies that are not legal under the CWA. The proposed chemically enhanced high rate settling and storage facility as an interim remedy for SSO 700 is illegal because it cannot meet the secondary treatment standard of 30/30 and 85% removal and the County is not eligible for an 85% removal waiver due to the existence of excessive infiltration/inflow. The \$10 million minimum and \$15 million maximum spending for this interim remedy is arbitrary and, at best, may not treat all of the flow and, at worst, eliminate the problem altogether. Construction of this interim remedy is not required until 2007 and may continue to operate until 2016 or 2022 depending on the final remedy chosen. These time frames are totally unreasonable. While Sierra Club does not support chemically-enhanced high rate settling systems as an alternative to full secondary treatment, it is noteworthy that a CSO consent decree EPA and Atlanta, Georgia required the City to plan, design and build a remedy that includes separation of 20 – 25% of its combined sewers, two chemically enhanced high rate settling systems, two large storage tunnels, and some treatment plant improvements in less than seven years. Interim remedies should be of a relatively short duration, not 20 years in the future, as allowed in this Interim Partial Consent Decree!

The final remedy for SSO 700 relies heavily upon the Mill Creek Deep Tunnel, which may never be built, since it depends on "third party" funding. The time frame for construction of the Tunnel is set at 2016, while 2022 is the construction deadline, if an alternative remedy is chosen. Defendants have until 2005 to decide if the tunnel will or will not be pursued and have until 2009 to submit a remedial plan. Four years to develop a remedial plan after waiting to 2005 to decide if the tunnel will be built is clearly excessive. These time frames are excessive, not warranted by legally cognizable concerns and grossly fail to protect public health, water quality and the environment. Significantly, as the USEPA is well aware, SSO 700 has discharges of million gallons per day of raw sewage into Mill Creek during rain events! Timeframes of 20 years pose a severe risk of being lost in the tracking process by the regulators as time goes on and personnel changes take place.

In addition, the Mill Creek Deep Tunnel will not address SSOs in the Great Miami, Little Miami or Ohio River Basins.

All the Interim Partial Consent Decree deadlines are dependent on the County's completion of a hydraulic model of the sanitary sewer system. MSD has been required to

study and plan and eliminate SSOs since 1992 by order of the State of Ohio. MSD has spent nearly \$8 million dollars on this modeling effort to date and is scheduled in the CIP to spend another \$4 million in 2002. Undoubtedly, MSD knows or should know enough about its sewer system at this point in time to be bound by a comprehensive SSO elimination schedule. The Interim Partial Consent Decree sets up the model's completion and calibration as a major loophole in enforcement of any and all compliance schedules.

Capacity Assessment Plan, Capacity Assessment Report, and Capacity Assurance Program Plan are all dependent on dates in previous submittals (e.g. Capacity Assessment Plan is contingent upon hydraulic model validation). In other words, there is no definite end date for submittal of these documents. The Interim Partial Consent Decree does not require implementation of the Capacity Assurance Program Plan including construction of any SSO remedial measures proposed under the Capacity Assurance Program Plan. To be a meaningfully protect public health, water quality and the environment, the county and the city should be required to implement permanent, remedial measures in an expedited and protective manner.

The proposed limitation on new sewer connections is inadequate. The five to one credit program allows 1 volume of sanitary for every 5 volumes of storm water including retroactive credits. This not only allows the overflows to continue, but also increases the concentration of contaminants since sanitary wastewater has a much higher concentration of pollutants than storm water. These credits are automatic and are not based on demonstrated reductions in the hydraulic overloading upstream of SSOs.

Although the Ohio EPA ordered defendants to eliminate sewer overflows 10 years ago, the Interim Partial Consent Decree seeks no civil penalties for past violations and no stipulated penalties for capacity-related overflows, all in violation of the U.S. EPA's own penalty policy.

In conclusion, the Sierra Club believes that the Interim Partial Consent Decree as proposed falls markedly short of what has been required in other communities in this country. It is neither a holistic solution to the many violations at MSD, nor even a subset of just SSO violations or even some of the SSO violations. The solution needs to be holistic because of the complex nature of the infrastructure system. Historically, MSD has used piecemeal solutions, causing overflows, rather than creating permanent solutions in a reasonable time frame. For these reasons and others we have lodged our own lawsuit (copy attached) in hopes of expediting the schedule and ultimately improving the human and natural environment in Hamilton County.

Sincerely,

Marilyn Wall, Chair  
Ohio Chapter Sierra Club  
515 Wyoming Avenue  
Cincinnati, Ohio 45215

**ENGINEERING REPORT ON  
USE OF GRINDER PUMPS AS  
SOLUTION TO WATER IN BASEMENT (WIB) PREVENTION  
PROGRAM PROPOSED BY CINCINNATI, MSD  
IN CONSENT DECREE SETTLEMENT  
USA VS. HAMILTON COUNTY AND  
CITY OF CINCINNATI, CIVIL ACTION C-1-02-107**

**PREPARED BY:**

**SMITH ENVIRONMENTAL ENGINEERING, INC.  
(SEED)  
431 OHIO PIKE SUITE 223 SOUTH  
CINCINNATI, OHIO 45255**

**FOR:  
OHIO CHAPTER OF THE  
SIERRA CLUB  
515 Wyoming Ave  
Cincinnati, OH 45215**

**November, 2003  
(Revised November 17, 2003)**

**ENGINEERING REPORT ON  
USE OF GRINDER PUMPS AS  
SOLUTION TO WATER IN BASEMENT (WIB) PREVENTION  
PROGRAM PROPOSED BY CINCINNATI, MSD  
IN CONSENT DECREE SETTLEMENT  
USA VS. HAMILTON COUNTY AND  
CITY OF CINCINNATI, CIVIL ACTION C-1-02-107**

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## **1.0 INTRODUCTION**

This review has been prepared by John M. Smith of Smith Environmental Engineering, Inc. (SEEI) in response to a request from Ms. Marilyn Wall of the Ohio Chapter of the Sierra Club.

## **2.0 DOCUMENTS REVIEWED**

As a part of this analysis SEEI has reviewed the following:

- a) All applicable sections of "Consent Decree on Combined Overflows, Wastewater Treatment Plants and Implementation of Capacity Assurance Program Plan for Sanitary Sewer Overflows...USA *Plaintiff* vs. *The Board of County Commissioners Hamilton County, Ohio and the City of Cincinnati, Defendants Civil Action No. C-1-02-107.*
- b) October 26, 2003 Correspondence (E/M) from Marilyn Wall Re. St. Louis Experience.
- c) October 15, 2003 Memo from Patrick T. Karney, P.E., DEE, Director of MSD to Hamilton County Commissioners, John Dowlin, Phil Heimlich, and Todd Portune.
- d) "USEPA Manual Alternative Wastewater Collection Systems" EPA/625/1-91/024 October 1991 (Chapter 2).
- e) Communications and Quotations from Grinder Pump manufacturers and manufacturers representatives.
- f) SEEI files on Grinder Pumps Storm and Combined Sewers and SSO's.

## **3.0 GENERAL DISCUSSION OF WIB PROGRAM PLAN**

The plan as described in Chapter XIII of the Consent Decree and in Exhibits 6, 7 and 8 is better described as a general outline of an implementation plan. The plan describes program goals an overall approach and a general schedule. It is non-specific in many areas of importance. The more important of these are outlined below:

- a) A specific budget should be developed, published and included in the final Consent Decree. This should include dollars allocated per quarter beginning January 1, 2003.

- b) A specific time schedule should be developed for overall plan implementation including the "ramp-up" time as described in Exhibit 6, Introduction.
- c) It should be made clear what portions of the program will be implemented by MSD staff or by outside consultants.
- d) MSD should make public the property owners who have experienced multiple wastewater back-up (Exhibit 6, Item III and use this information to develop the Item (a) above budget.
- e) The language of Exhibit 6, "MSD's good faith engineering judgment"...Items (IV.C; IV.D: V, Exhibit 7, Item IV) is non specific and bothers me from a professional engineering standpoint. I would suggest that all decisions and documentation be fully documented, sealed and signed by a professional engineer. Such professional engineer may be part of MSD's staff or a contract engineer.

I can not think of a better measure of "good faith" than the signature of a professional Engineer.

- f) It would be helpful to the "non-believers" if MSD would outline an overall management plan for this program including oversight that is responsible to the court.
- g) There seems to be a discrepancy in the language of Exhibit 6-III and Exhibit 7-II regarding past basement back-ups. Exhibit 6-III indicates MSD will contact property owner that have experienced back-up in the last five (5) years due to inadequate capacity. Exhibit 7-IV indicates MSD will take responsibility for the last two (2) years.
- h) I am very skeptical of the plan for the City of Cincinnati Solicitors Office to effectively handle claims originating in the City Controlled MSD Organization. This seems like a "pass-the-buck" plan. What priority would the City's Solicitors office place on these claims? What additional staffing would they require? Whose budget would this come from?

There should be a very specific set of requirements including a schedule for hearing claims and disputes made by the City Solicitors Office, with provision of third party professional review.

- i) The Exhibit 6, Attachment "A" drawings are over-simplified (See Section 4.0 of this report for additional details.

#### **4.0 TECHNICAL DISCUSSION OF ALTERNATIVES**

#### **4.1 Grinder Pump Technology and Application to MSD Proposed WIB Program.**

##### **4.1.1 General**

The Grinder Pump was developed over 30 years ago and has been extensively studied and supported by USEPA in pressure sewer systems. In this application, each home is equipped with a duplex grinder pump station that includes a 150-560 gallon receiver station pump, pump



controls, and discharge check valves all situated in a prefabricated FRP enclosure, normally located in a side yard. A typical grinder pump is 2 HP with a pumping capacity of 5-35 gpm, depending on the discharge head, which typically ranges from 10 to 90 psig. (23 to 290 feet). The grinder pump was selected to macerate typical domestic waste components to allow discharge to a 4 to 6-inch force main. Hundreds of systems have been installed throughout the U.S., during the past 30 years.

For MSD's proposed WIB program as described in Exhibit 6, Attachment A, it is proposed to 1) install a bulkhead to block the normal gravity flow in the house lateral, 2) install a simplex grinder pump to pump sanitary waste to the home lateral downstream of the bulkhead. The grinder pump station is shown located either in the basement or the yard area adjacent to the dwelling and includes the normal components of float controls, isolation gate valve, a discharge check valve, control panel and visual alarm. The pumping head is shown to be approximately 5 feet. Under this arrangement, a typical 2HP pump will have a capacity of 35 to 40 gpm. The receiver tank is shown to be about 175 gallons. This design is adequate to handle the sanitary waste from normal single or two family dwellings. The system will not however, be of sufficient capacity to handle large volumes of water entering the basement through cracked floors or other openings from surcharged Sanitary Sewers (SS) on Combined Sewers (CS), that has been described to have occurred in several public meetings concerning this subject.

These systems are inoperative during power failures that commonly accompany high intensity storms that cause SSO, CSO and surcharged conditions.

#### 4.1.2 Estimated Cost of Grinder Pump Installation

The cost of the grinder pump system has been publicly quoted by MSD to be \$30,000 to \$35,000 per installation. This cost is clearly excessive.

SEEI estimates the cost per installation to less than \$15,000 per dwelling. We estimate the cost as follows:

**EQUIPMENT** One Simplex SG Grinder Pump package with 2' diameter x 7' deep (164 gallons) FRP receiver station with float controls, isolation valve, check valve, 1-1/2" discharge coupling and control panel. (See attached quote).

	Equipment	<u>Sub-Total</u>	<u>\$ 3,500.00</u>
<u>INSTALLATION</u>	Excavation and Yard Restoration		\$ 450.00
	Labor (Skilled)		\$ 700.00
	Labor (Trades)		\$ 350.00
	Foreman		\$ 400.00
	Materials		\$ 350.00
	Subtotal		<u>\$2,250.00</u>
	Profit and Contingency		<u>\$ 800.00</u>
	Installation	<u>Sub-Total</u>	<u>\$3,050.00</u>

<u>INSPECTION AND SITE ENGINEERING</u>		<u>\$ 1,250.00</u>
	Sub-Total	\$ 7,800.00
<u>MSD PROGRAM MANAGEMENT AND MANAGEMENT</u>		
<u>OVERHEAD @ 35%</u>		\$ 2,730.00
<u>TOTAL ESTIMATED COST PER DWELLING</u>		<u>\$10,530.00</u>

#### 4.1.3 Other Pump Systems

On-site pumping systems similar to conventional lift stations are available at capacities of 50 to 500 gpm and discharge heads to 200 feet +, to handle extreme basement flooding conditions due to surcharge. These systems range in cost from \$10,000 to \$50,000 installed.

It should be recognized, however that this solution, as well as grinder pumps or "back flow preventers" (if they were feasible) will eliminate a single family flooding problem but passes the problem along until ultimate system capacity and/or storage is provided.

#### 4.2 Back Flow Preventers

We have very serious doubts that "Back Flow Preventers" as described in Alternative (A), Section VI of Exhibit 6 represent a viable alternative. Our experience and knowledge of "backflow preventers" indicates they are a high differential pressure clear water device that are not applicable to 6" to 8" gravity house laterals. We are very skeptical from a practical engineering point of view that any non motorized flap valve or check valve assembly would work reliably for domestic sanitary wastes due to the clogging effects of paper wastes, personal hygiene products and other household wastes commonly discharged to sanitary sewers.

Conceptually, a simple "back flow preventer" would be a good alternative. From a practical point of view, we consider this alternative to be infeasible. It should also be recognized that a workable "back flow preventer" would create a back-up of sanitary wastes in the home during the surcharge event unless storage is provided.

#### 4.3 New Technologies

We are unaware of "new technologies" that MSD believes will be offered in the future under this plan. We heartily endorse, however, any efforts on the part of MSD, the engineering community or scientists to find a cost effective and equitable solution.

#### 4.4 Property Purchase

There are no major technical issues for this alternative. If practiced as a part of the WIB plan, property purchase should include maximum use of the property for surcharge storage and protection of adjacent neighborhood property values.

**APPENDIX "A"**

**Grinder Pump Quotation**



# FAX

Chesley Associates, Inc.  
5583 Ridge Avenue  
Cincinnati, Ohio 45213

Date 10/27/03  
Number of pages including cover sheet 4

To: John  
J.M. Smith Eng.  
  
  
Phone  
Fax Phone 688-1657  
CC:

From: Malcolm S. Robertson  
  
Subject: Barnes Grinder Pumps  
  
Phone 513-531-7103  
Fax Phone 513-531-0445

REMARKS:  
☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

John,

Thanks for your call this A.M. on the Cincinnati job. Attached please find general info from Barnes on a simplex grinder system. Budget pricing below:

One (1) Simplex SG package with control panel and level controls.....\$3,200.00/each.  
Standard depth on above would run 7'. Add about \$110.00/ft. for deeper FRP basin.  
Note: If the simplex station would be located inside (not recommended), the above pricing would be adequate.

Best regards,

*Malcolm S. Robertson*  
Malcolm S. Robertson

# BARNES® SUBMERSIBLE GRINDER PUMPS

## Series: SG

SECTION	38
PAGE	1
DATE	7/93
REPLACES	7/92



**Series: SG 2 HP  
3450 RPM**

### Description:

THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC, COMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUND SLURRY.

### Specifications:

**DISCHARGE:** 1-1/4" NPT, Horizontal.  
**LIQUID TEMPERATURE:** 160°F Intermittent  
**VOLUTE:** Cast Iron ASTM A-48, Class 30.  
**MOTOR HOUSING:** Cast Iron ASTM A-48, Class 30.  
**SEAL PLATE:** Cast Iron ASTM A-48, Class 30.  
**IMPELLER:** Design: 4 Vane, Semi-Open, Reversible. Dynamically Balanced, ISO G6.3.  
Material: Ductile Iron ASTM-A339-55, Rockwell C-55.  
**ABRADER:** Hardened 440C Stainless Steel, Rockwell C-55.  
**CUTTER:** Hardened 440C Stainless Steel, Rockwell C-55.  
**WEAR PLATE:** 416 Stainless Steel, Rockwell C-55  
**SHAFT:** 416 Stainless Steel.  
**SQUARE RINGS:** Buna-N.  
**HARDWARE:** 300 Series Stainless Steel.  
**PAINT:** Acrylic Primer with Enamel Top Coat.  
**SEAL:** Design: Single Mechanical, Oil-Filled Reservoir. Secondary Exclusion Seal.  
Material: Rotating Faces - Carbon  
Stationary Faces - Ceramic  
Elastomer - Buna-N  
Hardware - 300 Series Stainless  
**CABLE ENTRY:** 25 ft. Cord. Pressure Grommet for Sealing and Strain Relief.  
**SPEED:** 3450 RPM (Nominal).  
**UPPER BEARING:** Design: Sleeve  
Lubrication: Oil  
Load: Radial  
**LOWER BEARING:** Design: Single Row, Ball  
Lubrication: Oil  
Load: Radial & Thrust  
**MOTOR:** Design: NEMA L-Single Phase, NEMA B-Three Phase Torque Curve. Completely Oil-Filled, Squirrel Cage Induction. Class B.  
Insulation: Capacitor Start/Capacitor Run.  
**SINGLE PHASE:** Requires Overload Protection to be Included in Control Panel. Requires Barnes® Starter or Control Panel Which Includes Capacitors, Or Capacitor Pack.  
**THREE PHASE:** Dual Voltage 230/460; Requires Overload Protection to be Included in control panel.  
**OPTIONAL EQUIPMENT:** Seal Material, N/C Temperature Sensor (Requires Relay in Control Panel), Additional Cable.



## BARNES PUMPS, INC.

A Barnes Pumps, Inc. Company  
Distributor Sales & Service Dept.  
420 Third Street/P.O. Box 803  
Piqua, Ohio 45356-0803  
Ph: (513) 773-2442  
Fax: (513) 773-2238

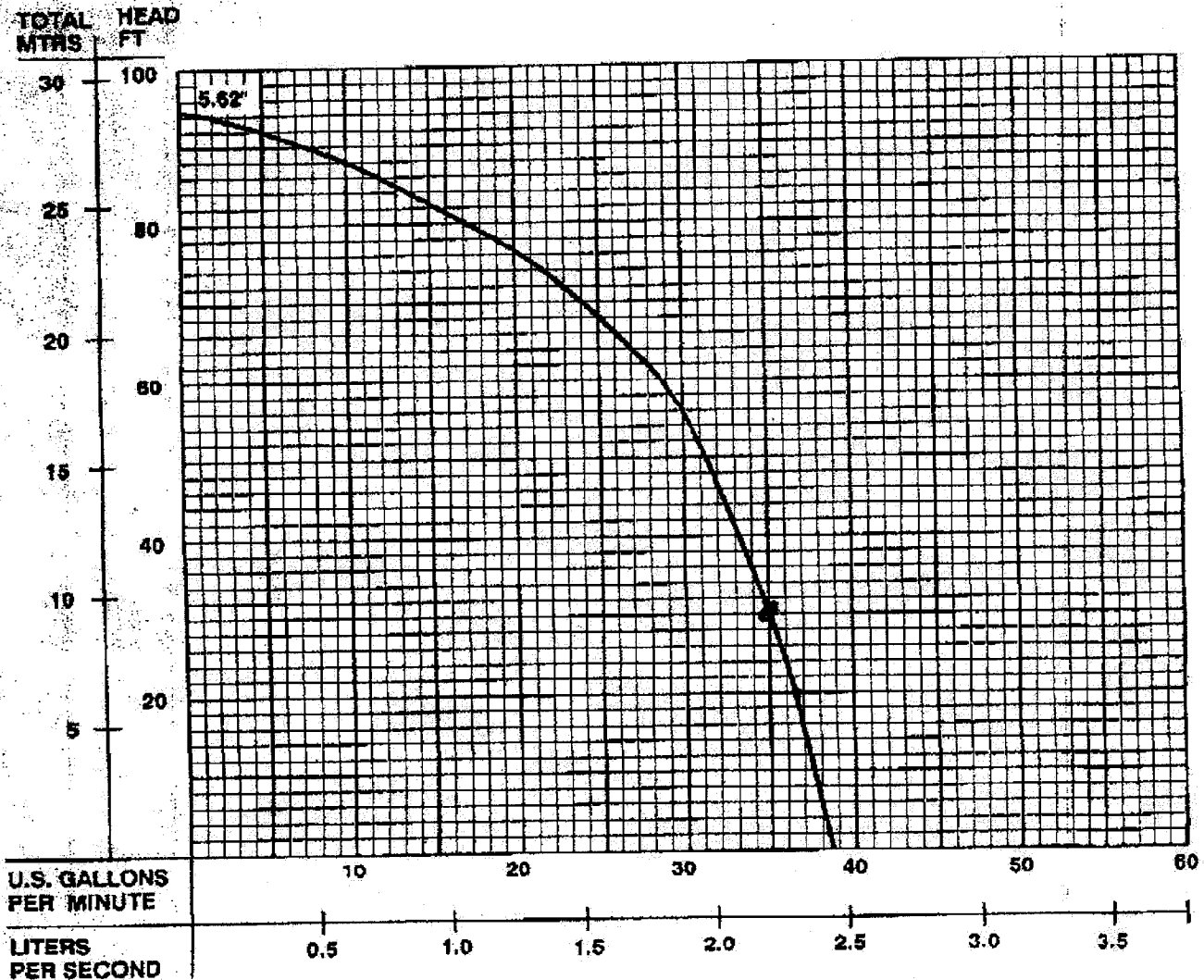
Special Bids & Project Sales  
1485 Lexington Ave.  
Mansfield, Ohio 44907-2874  
Ph: (419) 774-1511  
Fax: (419) 774-1530





# **PERFORMANCE CURVE** **Series: SG GRINDER, 2HP, 3450RPM**

SECTION	3B
PAGE	3
DATE	7/93
REPLACES	7/92



Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.  
 In grinding applications, recommended basin inflow limitations are as follows:  
 Simplex-----4 homes or 1600 gallons/day.  
 Duplex-----8 homes or 3200 gallons/day.



## **BARNES PUMPS, INC.**

A Barnes Pumps, Inc. Company  
 Distributor Sales & Service Dept.  
 420 Third Street/P.O. Box 603  
 Piqua, Ohio 45356-0603  
 Ph: (513) 773-2442  
 Fax: (513) 773-2238

Special Bids & Project Sales  
 1485 Lexington Ave.  
 Mansfield, Ohio 44907-2674  
 Ph: (419) 774-1511  
 Fax: (419) 774-1530





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Ohio Water Sentinel Program

Leslie Allen, Esq.  
Senior Attorney  
Environmental Enforcement Section  
United States Department of Justice  
PO Box 7611  
Washington, DC 20044-7611

July 22, 2003

Re: Sierra Club Comments on the 2<sup>nd</sup> Decree

Dear Ms. Allen:

Pursuant to your request to our Counsel, Mr. Albert J. Slap, we are providing to the EPA Sierra Club's comments on the proposed 2<sup>nd</sup> Consent Decree. EPA is already in receipt of the Club's extensive comments on the IPCD. We understand the IPCD is not going to be merged with the 2<sup>nd</sup> Decree. We believe that it should both modified to address our concerns and be merged – and the proposed IPCD abandoned.

With regard to MSD's WWTPs, we understand that the Sycamore Plant expansion is going to be included in the 2<sup>nd</sup> Decree as part of injunctive relief. Please see Sierra Club comments on the Sycamore Plant attached. With regard to other WWTP expansions, the Sierra Club believes that, due to overflow and by-pass violations, especially at the Mill Creek Plant, it is likely that there will have to be plant expansions. This is especially true as SSOs are eliminated and CSOs reduced, thereby increasing sewage flows to the WWTPs (as they should be). Without upsizing the plants, the current illegal overflows will just be moved further downstream and become illegal WWTP by-passes or emerge as SSOs at another location, increased frequency of CSO activation, or sewage backups in residents' basements. We will have specific comments on plant expansions after we review WWTP by-pass data.

With regard to the 2<sup>nd</sup> Consent Decree, which is now being negotiated, you already have e-mails from us and data compilations that Sierra Club prepared that demonstrates the need for additional injunctive relief in the 2<sup>nd</sup> Decree for both SSOs and CSOs.

- The IPCD does not have an adequate number of SSOs that are going to be eliminated through construction projects (CIPs) with a set end date.





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- Only 15 of 90 active SSOs have construction schedules in the IPCD. These 15 SSOs together overflowed 394 times in 2002, alone.
- The 75 other active SSOs that are not scheduled for construction overflowed 1122 times in 2002, alone.
- Of the 15 SSOs that are scheduled for construction, 13 were identified and scheduled for elimination by MSD as far back as 1993.
- Of the 75 other active SSOs that are not scheduled for construction, 35 of them were identified and scheduled for elimination by MSD as far back as 1993.
- All of the 90 active SSO either have a CIP number associated with it by MSD or an estimated project cost.

The proposed 2nd Consent Decree does not require adequate elimination or minimization of CSOs (through infrastructure repair/replacement) by a set end date.

- In the proposed 2nd CD, only 42 of 256 CSOs are scheduled for construction with a set end date.
- All but 40 CSOs out of a total of 256 have CIP numbers and cost estimates associated with them.
- Of the 42 CSOs that are scheduled for construction in the 2nd Decree with a set end date, 35 of them were identified by the MSD in its 1996 LTCP.
- While there are many MSD data gaps in CSO activations, of the 214 CSOs that are not scheduled for construction with a set end date, 56 (that we have data about) overflowed a total of 4705 times in 2001 and 2002, combined.

It is very important that the consent decree adopt a "fix it first" policy. The MSD should fix illegal overflows and SIB problems BEFORE building new sewers in sprawling, unbuilt areas. Stipulated Civil Penalties should apply if deadlines are not met or SIB's not fixed by a date certain.

The Civil Penalty in this case should reflect the MSD's substantial lack of progress in eliminating known SSOs between 1993 and 2003. The Civil Penalty in this case should reflect the substantial lack of progress in eliminating or minimizing CSOs between 1996 and 2003. The Sierra Club suggests that the minimum civil penalty be \$25 million.

The Sierra Club suggests that \$5 million worth of supplemental environmental projects be implemented to address many of the concerns that come with raw sewage overflows. The following represents Sierra Club's suggested supplemental environmental projects:

1. Independent, third-party audits of WWTP monitoring and reporting. This independent auditor would report to the Court and the public on NPDES compliance and especially by-pass issues.





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2. A Citizen Oversight Committee to review compliance with the Consent Decree. A small group of Hamilton County residents will be appointed to a committee that will oversee the compliance with the consent decree, making sure that MSD follows its construction schedules and other schedules in the decree. This committee would report to the Court and the public. Committee members would include members to be selected by the Sierra Club. The Citizen oversight committee would have a budget to hire technical experts (both engineering and economic/accountant and the Committee expenses would be paid).
3. Water Sentinels Monitoring Program. Similar to Water Sentinels programs in other states and other locales, a citizen group will test water samples on a periodic basis. Water samples will be taken from creeks, streams, and rivers selected by the Sierra Club to be tested for compliance with water quality standards. Results would be published in a newsletter, on the web and distributed to Hamilton County residents and the Court.
4. Funding a mechanism to help SIB victims. This mechanism would aid sewage-in-basement residents who are seeking compensation for clean-up expenses and personal property damages. This administrative claims mechanism would be conducted in a way that would not require each resident to bear the expense of hiring an attorney. Rather, they would be handling the claims themselves. This will provide residents with an efficient, fair and economical way to receive reimbursements for sewage-related damages. This administrative claims system would be publicized in every sewer utility bill in order to inform the public of their rights.
5. MSD would be required to publish a monthly ad in the Enquirer and the Post that discloses every violation that MSD has committed (violations of the Clean Water Acts and violations of the Consent Decree) and the location of those violations. This will act as an awareness mechanism so that all Hamilton County residents have knowledge of what exactly is being discharged into the waters, where, and when.
6. Fund the beautification projects in neighborhoods that have had chronic SIB problems (e.g. beautifying public parks, green spaces, etc.).



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Ohio Water Sentinel Program

7. Sewage in Basement Real Property Damages – Just Compensation for Government Taking.
  - a. Many Hamilton county residents have experienced sewage backups in their basement not just once or twice, but many times. MSD rarely does anything to aid these residents. MSD tells sewage in basement victims that the backups are the homeowner's fault, even when it isn't. MSD does not provide homeowners with information on proper clean up methods and disease protection.
  - b. MSD does not have the authority to store sewage in the basements of Hamilton County residents without just compensation. Therefore, the Sierra Club suggests that a Sewage in Basement Program be outlined in the final consent decree that holds MSD accountable for backing up sewage into the basements of Hamilton County residents. The following represents the suggested SIB program.
  - c. Disclose to the public in sewer bills, a map showing the chronic SIB areas. Disclose to Sewage in Basement Victims how to file a damages claim and claim for condemnation in each bill.
  - d. Send out 4 x (in the sewer bill, easy to find listing in phone book) information on how to clean up after a sewage backup and protect homeowners from disease.
  - e. The Consent Decree would establish a rebuttable presumption that a backup in chronic area is fault of the MSD
  - f. MSD would pays for immediate cleanup and disinfection of a sewer overflow in a residence in chronic SIB areas and any situation where MSD's crew finds a "main line overload" or a "main line blockage."
  - g. The Program would include a yearly outside, third-party audit of the MSD' "determination" of the cause of an overflow and what is a chronic sewer in basement neighborhood.
  - h. If the SIB is in a chronic area, burden of proof is always on MSD to show that it is not its fault.



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- i. If the SIB is not in a chronic area, then, assuming that the crew does not find main line overload or main line blockage (in which case it is MSD's fault, again), but does not find lateral problem either, then, the burden of proof is shifted back onto the MSD, if the homeowner hires a plumber who finds no problem with the lateral.
  - j. For residential SIB situations in chronic areas, the MSD will immediately clean and disinfect contaminated areas. Property damage payment of \$900 per overflow will be immediately paid to the homeowner "no fault" for each documented incident of SIB. If the homeowner has a claim that is greater than \$900, then it will present the receipts or verification to MSD. MSD can either pay within 90-days or the case goes to an administrative claims board or AAA-type arbitration for property damages. Attorneys are not necessary to participate in the process.
  - k. For condemnation claims, the homeowner must take the matter to court, but the new, above-referenced burdens of proof would apply.
8. Fund an economic study of the value of clean water in local streams conducted by Rivers Unlimited, Inc. and Ohio State University.
9. Fund Water Keeper Alliance to form Water Keeper group on the Mill Creek, the Great Miami, and the Little Miami Rivers in Hamilton Co. See <http://www.waterkeeper.org/>. The Keepers work actively on the river to protect it.

If you have any questions regarding this letter, do not hesitate to give me a call at the number below.

Sincerely,

*Marilyn Wall*

Marilyn Wall, Conservation Chair  
Ohio Chapter, Sierra Club

35

Re: Comments on Sycamore Creek WWTP NPDES permit renewal & Anti-degradation Report

1. Has a Permit to Install (PTI) application been submitted by MSD to Ohio EPA for the construction of Phases 1 and 2 as indicated in the February 20, 2003, cover letter? If so, we would like a copy of this document and any resulting PTI issued by Ohio EPA.
2. Sycamore Creek WWTP has excessive wet weather flows (although it is 100% separate sanitary sewer) and the proposed alternative is the construction of high rate treatment facilities for flow that exceeds conventional treatment capacity. Although MSD implies that this alternative is proposed while "ongoing long term planning and collection system rehabilitation is proceeding", the long term goals are not specifically laid out in the documents provided to the Sierra Club. While interim treatment options may be appropriate it is unclear how long this facility will continue to operate under this proposed alternative. The high rate treatment process does not meet the secondary treatment requirements specified in the Clean Water Act.
3. Four "known" Sanitary Sewer Overflows as well as other areas of surcharging into neighborhoods and basement floodings are associated with the Sycamore Creek Wastewater collection system, however, the documents provided do not state how those overflows will be impacted by the treatment plant redesign.
4. The average inflow and infiltration rate in gallons per day is almost 2 million gallons (1.88 million gallons) yet very little information is presented by MSD to describe how measures will be taken to reduce this exorbitant amount of water.
5. Facilities would be designed to treat a peak flow of 18 million gallons per day (mgd) through secondary treatment (average design flow of 9 mgd) and peak flow of 32 mgd through the high rate treatment facilities for a combined flow of 50 mgd.
6. According to the permit application primary and secondary internal bypasses occurred 47 times last year.
7. According to Ohio EPA reports mercury has been reported in the discharge from the plant. What efforts have been made by MSD to locate the source of this contaminant? The analytical results of other tested parameters were not included with the Ohio EPA submittal.
8. Are the toxicity tests (and other parameters) that are reported to Ohio EPA sampled from the treated effluent or the bypassed wastewater? If only the treated effluent is sampled then MSD is not reporting a representative sample of water leaving the facility. So although the treatment plant may be functioning as designed the fact that untreated

wastewater is also being discharged (that does not meet permit limits) is not being accurately portrayed.

9. It is difficult to understand how the non-degradation alternative involves only primary treatment for flows in excess of 18 mgd while the preferred alternative is the same as the non-degradation alternative but with the added high rate treatment facilities. In other words the preferred alternative involves more treatment than the non degradation alternative. Please explain how this can be.

10. What is being used as the baseline is the fact that millions of gallons of wastewater are and have been discharged for years without adequate (secondary treatment). All of the alternatives proposed can be looked as an improvement over what currently exists.

11. Permit concentration limits and loading limits must be based on the entire effluent stream not just on the first 18 mgd as MSD is proposing.

12. The alternative to treat all wastewater to secondary treatment (which is what the Clean Water Act requires) should have been presented also.

13. The alternative to remove excessive inflow/infiltration in the collection system should have been presented also as the operating cost should be much lower than treating rainwater which does not need to be treated at a wastewater treatment plant.

14. It is disturbing that the Ohio EPA Little Miami water quality reports from 1993 to 1998 noted that concentrations of nitrate-nitrite -nitrogen were higher in the lower basin. The plant raises the concentration of phosphorus and coliform levels are extremely downstream of the plant.

15. The Sycamore Creek WWTP has an average rainfall derived inflow/infiltration 2 to 3 times what is typical for separate sanitary systems. Flows in excess of 32 mgd results in collection system losses as well as primary and secondary treatment bypassing. How will the 50 mgd peak flow design affect the already problematic collection system losses (surcharges to neighborhoods and basement floodings)?

16. Many of the alternatives are dismissed because of the likelihood of a "significant lack of public acceptance". It is more likely that the public is largely unaware of the issues unless they have personally experienced basement floodings or neighborhood surcharges.

17. The construction costs for the preferred design is \$23.56 million which does not include operation and maintenance costs.

17. Flow simulations made in 1999 Feasibility Study estimate approximately 30 times a year flows at the plant would be in excess of 18 mgd.

18. None of the alternatives include coliform limits

19. It is estimated that on an annual basis approximately 34 million gallons of wet weather flow will be treated through the high rate treatment whereas previously this flow would receive little or no treatment. Approximately 100 million gallons more a year will receive secondary treatment with the increase in secondary capacity from 14 mgd to 18 mgd.

20. Two years ago in July 2001 during the storm that affected so many people with sewage backups and broken sewer lines, the Sycamore Creek treatment plant was totally flooded and several processes were un-operational. Ohio EPA should not be permitting treatment plants in the flood plain or even flood prone areas. MSD should not consider the location for this plant in any long-term planning efforts.